**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATE: \_\_\_\_\_\_\_\_\_\_\_ PER. \_\_\_\_\_.**

**CELLULAR RESPIRATION WEBQUEST**

Go to the following website:

<http://www.phschool.com/science/biology_place/biocoach/cellresp/intro.html>

**Concept I – Overview of Respiration**

1. What is the technical name for the energy our body produces? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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2. What molecules can be used as “fuel” for the body? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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3. What is the main macromolecule used to make energy for your cells. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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4. Copy and label the picture of cell respiration in plant and anmial cells.

5. What are the three metabolic processes of cell respiration. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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6. Where in the cell to each of the following metabolic processes of respiration occur:

a. Glycolysis: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. Krebs Cycle: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. Electron Transport Chain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. If oxygen is NOT present, what two metabolic proceses take place? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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8. In what part of the cell do the processes from #7, above occur? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Concept II – Glycolysis**

9. Glucose is broken down into what molecule and how many are made? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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10. What are the products of glycolysis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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11. 4. Copy and label the picture of glycolysis.

12. How many ATP are made from Glycolysis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Concept III – Krebs Cycle (Aka Citric Acid Cycle)**

13. Where in the cell does the Krebs Cycle occur? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

14. What is the reactant for Krebs Cycle? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15. What is the first molecule made during Krebs Cycle? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

16. What are the products of Krebs Cycle? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

17. Copy and label the picture of Krebs Cycle.

**Concept IV – Electron Transport Chain (Aka Oxidative Phosphorylation)**

18. What two molecules provide the energy to be released by Electron Transport Chain? \_\_\_\_\_\_

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19. What is the formula for the breakdown of NADH? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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20. What is the formula for the breakdown of FADH2\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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21. What is the electron transport chain? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Concept V – Fermentation**

22. What is fermentation? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

23. Under what conditions will a cell use fermentation to make ATP? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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24. What molecule is metabolized to generate ATP and NADH during fermentation? \_\_\_\_\_\_\_\_

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25. Copy and label the picture of fermentation.

**Concept VI – Glucose & Energy**

26. Under what conditions does glucose make more ATP? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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27. How many ATP are made during aerobic respiration? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

28. How many ATP are made during glycolysis & fermentation?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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29. What is the chemical formula for cellular respiration? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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